PiXL Diagnostic Assessments

Year 5
Mathematics

Paper 3: Reasoning

Spring

Name	
Class	

	out of 35 marks

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Instructions and Guidance

Questions and answers

You will have about **40 minutes** to complete this booklet. The adult you are working with will tell you when to stop.

There are different types of questions in this booklet. Read the instructions for each question carefully. If you are not sure what to do, ask the adult you are working with.

You may ask an adult to read the question to you if you wish.

You may find it helpful to annotate the booklet. You can use the white spaces around the questions for any working out.

If you want to change an answer, cross it out neatly then make sure that your new answer is clear to read.

If you cannot answer one of the questions, **move on to the next one**. You can always come back to it later.

When you have completed the booklet, **look back and check your answers**.

Jakub, *Jamal*, *Meg* and *Zoe* are the names of pupils who appear in some questions.

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1.

Write these numbers in **ascending order**.

$$853 \quad 385 \quad 835 \quad 358 \quad 538$$

smallest

1 mark

2.

Zoe has saved some money.

She spends $\frac{3}{10}$ of her money on a computer game and $\frac{4}{10}$ of her money on clothes.

What **fraction** of her money does she have left?

1 mark

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3.

Match the month to the number of days it has.

One has been done for you.

May   June   July   August   September

| 30 | | 31 |

1 mark

4.

The answer to these calculations is 0 or 1.

Draw a line to **match** the calculation to the correct answer.

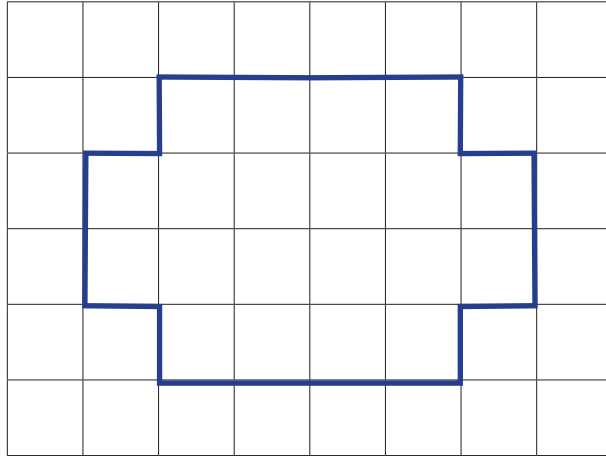$1 \div 1 =$

$1 \times 0 =$

$0 \div 1 =$

$0 \times 1 =$

$1 \times 1 =$

| 0 |

| 1 |

2 marks

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5.

A shape is drawn on a grid.

Use a ruler to draw the lines of symmetry on this shape.

6.

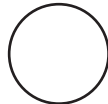Write **<**, **>** or **=** to compare these square and cube numbers.

4^3 ◯ 8^2

2^3 ◯ 3^2

3^3 ◯ 5^2

7.
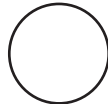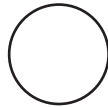
Box 1	Box 2
£1.30	£1.50

Box 3	Box 4
90p	£1.00

Jakub has four different money boxes.

- Money box 1 is filled with 2p coins and has £1.30

- Money box 2 is filled with 5p coins and has £1.50

- Money box 3 is filled with 10p coins and has 90p

- Money box 4 is filled with 20p coins and has £1

Which money box has the **most coins**?

1 mark

8.

Write the **decimal** equivalent of these fractions.

$$\frac{173}{1000} \quad = \quad \boxed{}$$

$$\frac{7}{1000} \quad = \quad \boxed{}$$

$$\frac{37}{1000} \quad = \quad \boxed{}$$

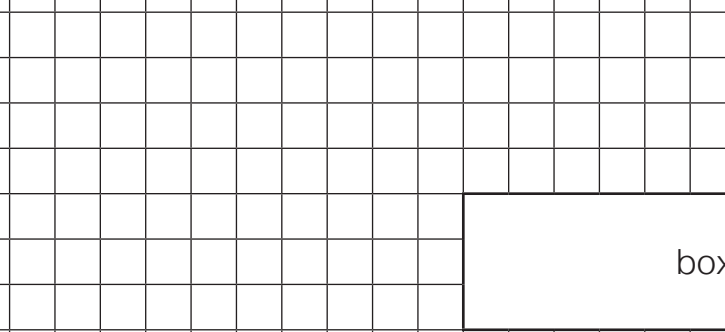$$\frac{7003}{1000} \quad = \quad \boxed{}$$

2 marks

9.

Computers are packed in boxes of 8.

A factory packs 5,887 computers.
How many **full** boxes will there be?

Show your working.

boxes

2 marks

10.

Complete the table.

190,091	
rounded to the nearest 10 is	
rounded to the nearest 1,000 is	
rounded to the nearest 10,000 is	

2 marks

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11.

Zoe calculates 679 + 4,933 = 5,612

She checks her calculation by rounding the numbers.

Tick the calculation that will give Zoe the **most accurate** check.

1,000 + 5,000 ☐

1,000 + 5,600 ☐

700 + 5,600 ☐

700 + 5,000 ☐

1 mark

12.

Meg checks the temperature in her garden.

At midday on Saturday the temperature is 8°C.

At midnight the temperature has fallen by 11°C.

By midday on Sunday, the temperature has risen again by 6°C.

What was the temperature at midday on Sunday?

Show your working.

°C
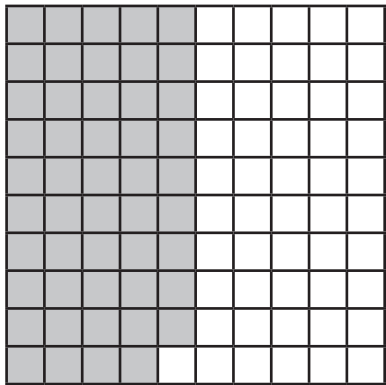
2 marks

13.

This is a hundred square.

Complete the table about the **shaded** part of the square.

The shaded part of the square is		
_____ as a decimal.	_____ as a fraction.	_____ as a percentage.

2 marks

14.

This pictogram shows the number of coffees sold in a café in one week.

⬤ stands for 200 cups of coffee

	Coffee Sales
Monday	⬤⬤⬤◗
Tuesday	⬤⬤
Wednesday	⬤⬤⬤⬤◗
Thursday	⬤⬤⬤◖
Friday	⬤⬤⬤⬤⬤
Saturday	⬤⬤⬤⬤⬤◖
Sunday	⬤⬤⬤⬤⬤⬤◗

How **many more** coffees were sold from Monday to Friday than on Saturday and Sunday?

Show your working.

_____ coffees

2 marks

15.

Convert these metric units.

0.9 centimetres	=	millimetres
0.9 kilograms	=	grams
0.9 metres	=	centimetres
0.9 litres	=	millilitres

2 marks

16.

Zoe is sorting out some weights in the classroom.

She finds twenty-three weights each weighing $\frac{1}{2}$ kg.

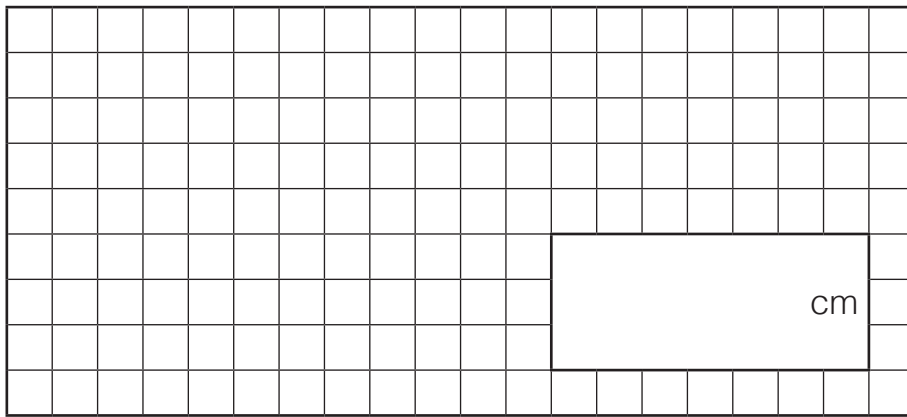What is the **total mass** of the weights?

kg

1 mark

17.

The perimeter of this mat is 402 cm.

57 cm

A

Calculate the length of side A.

Show your working.

cm

2 marks

18.

Write the next number in this sequence.

143,234   142,234   141,234   140,234   [   ]

1 mark

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19.

Complete this sequence:

4.62,   4.64,   ____,   4.68,   ____

1 mark

20.

Jamal is on a plane.
The flight is about 8,000 kilometres.

About how far is this in **metres**?

metres

1 mark

21.

252 children took part in a run in the park.

They each ran 17 laps.
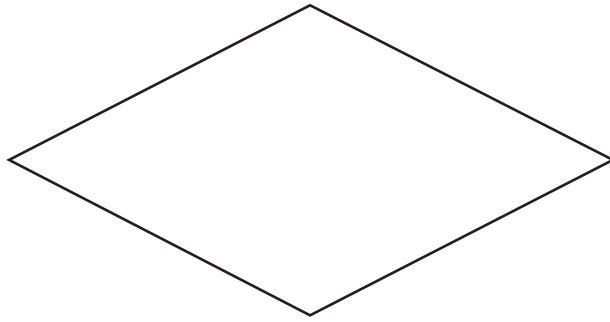
How many laps were run altogether?

Show your working.

laps
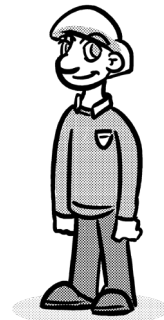
2 marks

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22.

This shape is a rhombus.
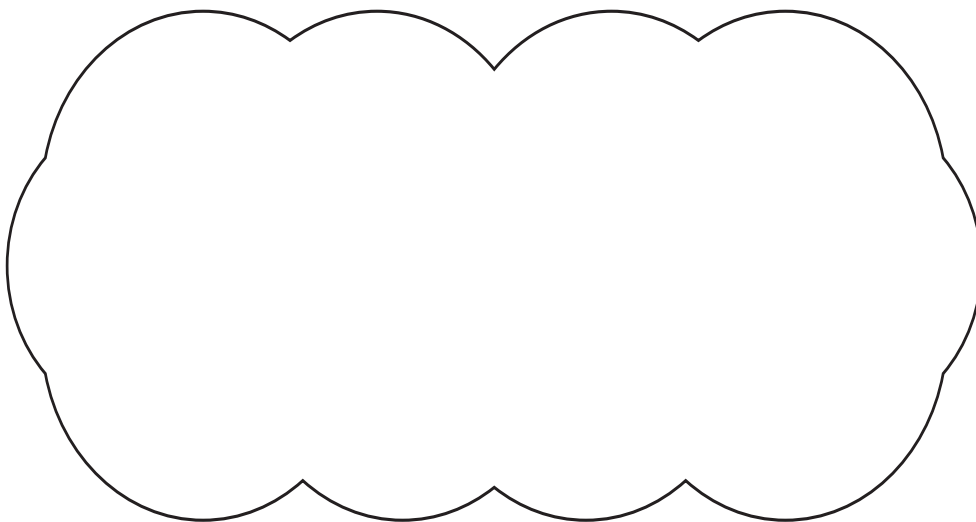
Jakub says:

This rhombus is a regular shape because all the sides are the same length.

Is Jakub correct? Circle your answer.

YES   NO

Explain how you know.

1 mark

23.

This table shows the sales for one week in a sandwich shop and the types of sandwiches sold.

	Cheese	Salad	Tuna	**Total**
Brown bread	124	105	97	**326**
White bread	184	?	103	**410**
Wholemeal bread	78	117	63	**258**
Total	?	?	263	**994**

How many **salad sandwiches** were sold in total?

Show your working.

sandwiches

2 marks

Once you have completed the paper, use any spare time to find any answers you may like to improve. Here are some things to look out for:

✓ **Have you followed the instructions accurately?**
✓ **Are your digits clear?**
✓ **Have you used rounding and estimating to check if your answers are reasonable?**
✓ **If a question has more than one step, have you completed all steps?**

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[END OF TEST]